

AMENDMENTS TO THE CLAIMS

2120. (CURRENTLY AMENDED) A method of calibrating an scanning system used for scanning an array of biomolecules that has an excitation light source that produces a ~~stable collimated~~ light, an optics portion, and a detection portion comprising the steps of:

initially calibrating the detection portion with a reference light level, the detection portion producing an initial output signal in response to the initial calibration that is stored for reference; and

subsequently calibrating the detection portion with a calibration apparatus that produces a calibrated light at the reference light level, the detection portion producing a subsequent output signal in response to the subsequent calibration that is analyzed for calibration, or saving an indication of sensitivity in a memory in association with data read from the array in response to illumination with excitation light.

2224. (CURRENTLY AMENDED) The method of Claim 2120, wherein the step of initially calibrating comprises the steps of:

initially generating a fixed signal corresponding to the reference light level with the calibration apparatus; and

measuring the output signal from the detection portion in response to the initial fixed signal.

2322. (CURRENTLY AMENDED) The method of Claim 2224, wherein the steps of initially generating and measuring are repeated one or more times, the output signal from the detection portion is recorded each time, and a mean value for the initial output signal is calculated from the recorded output signals and is stored as a reference value.

2423. (CURRENTLY AMENDED) The method of Claim 2120, wherein the step of subsequently calibrating comprises the steps of:

subsequently generating the calibrated light with the calibration apparatus;

measuring the output signal from the detection portion in response to the subsequently generated calibrated light to compare the subsequent output signal to the initial output signal for changes; and
compensating for any changes in the subsequent output signal.

2524. (CURRENTLY AMENDED) The method of Claim 2423, wherein the step of compensating comprises adjusting the detection portion until the subsequent output signal corresponds to the initial output signal.

2625. (CURRENTLY AMENDED) The method of Claim 2423, wherein the step of compensating comprises providing sensitivity change data for analysis.

2726. (CURRENTLY AMENDED) The method of Claim 2423, wherein the steps of subsequently generating and measuring are repeated one or more times, the subsequent output signal from the detection portion is recorded each time, and a mean value for the subsequent output signal is calculated from the recorded output signals before the respective output signals are compared.

2827. (CURRENTLY AMENDED) The method of Claim 2524, wherein the step of adjusting comprises adjusting voltage of the detection portion.

2928. (CURRENTLY AMENDED) The method of Claim 2524, wherein the step of adjusting comprises adjusting a scale factor of the detection portion.

3029. (CURRENTLY AMENDED) The method of Claim 2524, wherein the step of adjusting comprises adjusting the gain of the detection portion.

3130. (CURRENTLY AMENDED) The method of Claim 2120, further comprising the step of:
repeating the step of subsequently calibrating periodically.

3234. (CURRENTLY AMENDED) The method of Claim 3130, wherein the steps of subsequently calibrating and repeating occur automatically at predetermined times.

3332. (CURRENTLY AMENDED) The method of Claim 2120, wherein the step of subsequently calibrating occurs after a predetermined time.

34. (CURRENTLY AMENDED) The method of Claim 2120, wherein the step of initially calibrating and the step of subsequently calibrating are performed at the same location.

35. (CURRENTLY AMENDED) The method of Claim 2120, wherein the step of initially calibrating is performed at a first location and the step of subsequently calibrating is performed at a second location remote from the first location.

36. (ORIGINAL) The method of Claim 35, wherein the step of subsequently calibrating is initiated from the first location.

37. (CURRENTLY AMENDED) The method of Claim 2120, further comprising the step of scanning an array of labeled biomolecules to obtain data on the array, wherein the step of subsequently calibrating one or both of precedes or follows the step of scanning, and wherein any change in detection sensitivity is correlated with the array data in the step of subsequently calibrating.

38. (CURRENTLY AMENDED) The method of Claim 2625, further comprising the step of scanning an array of labeled biomolecules to obtain data on the array, wherein the step of providing comprises displaying whether a sensitivity change was measured.

39. (ORIGINAL) The method of Claim 38, wherein the step of providing further comprises correlating the sensitivity change data with the array data during analysis to correct the array data for any sensitivity changes.

50. (NEW) The method of claim 21 wherein the excitation light source produces a stable collimated light.